

The use of e-learning in motivating students to excel towards learning outcomes

Hendrik A.E Lao¹, Ezra Tari², Ishak Nahas³ Hengki Wijaya⁴, I Putu Ayub Darmawan⁵

^{1,2,3}Postgraduate Program in Christian Religious Education, Institut Agama Kristen Negeri Kupang, Indonesia

⁴Christian Education Department, Sekolah Tinggi Filsafat Jaffray Makassar, Indonesia

⁵Christian Education Department, Sekolah Tinggi Teologi Simpson Ungaran, Indonesia

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ABSTRACT

Researchers focus on the efforts of teachers to improve learning outcomes. Researchers examined the use of e-learning in motivating student achievement on learning outcomes. The influence of student activity on learning outcomes. Student achievement motivation on learning outcomes. The reason for the low quality of student learning makes the author interested in studying this problem. This paper contributes to using e-learning methods, student activeness, and student achievement motivation and can improve learning outcomes. Researchers find a digital-based learning process, the use of e-learning teaching methods in students' achievement motivation towards learning outcomes. The authors see student learning outcomes after using e-learning. Respondents of the study were 35 students who took Christian religious education subjects. The results of the study revealed that independent use of the material received very high scores. Student activeness is carried out correctly and effectively, the highest perceived to be at a mean value of 4.35. Students who take advantage of e-learning have high learning outcomes. The use of e-learning methods, student activeness, and student achievement motivation is implemented correctly and effectively. It was believed to be able to improve the learning outcomes of Christian Religious Education.

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Corresponding Author:

Hendrik A.E Lao

Postgraduate Program in Christian Religious Education

Institut Agama Kristen Negeri Kupang

Jl. Cak Doko No. 76, Kupang, Indonesia

Email: hendrikla033@gmail.com

1. INTRODUCTION

The digital revolution has given birth to a new paradigm of education-oriented towards new educational styles, new academic programs, and new educational services. Previous researcher explained in e-learning, most of the students had medium to high motivation levels. There was a significant gap in the level of motivation between the levels of students with different degrees [1]. The e-learning system is influenced by assessment factors and user characteristics who generally agree with the notion of male self-efficacy, while women emphasize Course Development [2], [3].

e-learning is applied as a small-scale tool used in educational methods—the ecosystem of e-learning (EeL) as a mediator [4]. e-learning learning addresses new problems, such as student-centered teaching [5]. Organizations need to think carefully about e-learning, including individual evaluations and providing transparency in evaluation designs [6]. The four determinants of the use of e-learning, namely the quality of the education system, the quality of the support system, the quality of students, and the perceived usefulness,

contribute 34.1% [7]. Emotion recognition systems, such as facial expressions, gestures, and user messages, provide better efficiency [8]. Teachers and learning program designs must pay attention to students' views and interests as like e-learning [9]. Use of Technology 2 plays an essential role in using e-learning systems by students in Sri Lanka [10]. The design categories affecting the assessment of e-learning systems' usefulness are instructional assessment and systems interactivity [11].

The author describes the learning outcomes of Christian Religious Education (CRE) is influenced by the use of the e-learning method in teaching and learning activities. CRE learning outcomes are also affected by student activeness in teaching and learning activities. This influence can be simultaneous or jointly between the use of the e-learning method, student activeness, and student achievement motivation that directly influence learning outcomes.

2. RESEARCH METHOD

2.1. Research design

In conducting this research, the authors used a survey method. The survey method is used to obtain data from certain natural (not artificial) places. Still, the researcher performs treatment in data collection by distributing questionnaires and conducting observations and documentation. The questionnaire contains mostly closed questions apart from open-ended questions in some cases [12]. Survey researchers in developing contexts often have to conduct field studies [13]. The sample selection technique is a purposive sampling technique. Purposive sampling is a sampling technique for a specific purpose. The purpose of sampling can also mean taking samples to determine certain target groups [14]. In a sample survey, data are collected from only a small part of the population unit. The survey was mostly carried out from a representative population sample [15]. The number of students is 143 students. The population was taken 25%, so that the sample size was 25% of the 143 students. The result is 35 students.

2.2. Research instruments

The technique used in data collection is the Direct Method. Complete data collection was by distributing instruments directly to students, while the instruments used in this study were questionnaire-type instruments (X1, X2, X3) and the collection of learning outcomes documents (Y). The sample selection technique is the purposive sampling technique. Purposive sampling is a sampling technique for a specific purpose. Purposeful sampling can also mean sampling to determine specific target groups [14]. In a sample survey, data are collected from only a small part of the population unit. The survey was mostly carried out from a representative population sample [12]. The population is 143 students, hence 25% of them were selected as sample (25% x 143 students=35 students). For the research instrument, the researcher used a tool in the form of a list of questions or statements presented in Table 1.

Table 1. Research instrument grid

No	Variabel	Indicator	No. Item
1	e-learning Method	1. Increase the creativity of students	1,2
		2. Utilizing technology services	
		3. Learning can be anytime and anywhere	3,4
		4. Make use of material that is independent	5,6,7
		5. Can answer global challenges	8,9,10,11
2	Student activity	1. Asking	12,13
		2. Formulating Opinions	14,15
		3. Give Feedback	16,17
		4. Attendance	18,19
		5. Answering Questions	20,21,22
3	Achievement motivation	1. Level of consciousness	23,24
		2. The attitude of the teacher to the class	25,26
		3. The influence of groups of students	27
		4. Class atmosphere matters	28,29
		5. Diligent in facing the task	30
4	Learning outcomes	Evaluation (Value)	

2.3. Data collection technique

The validity test results of the e-learning method were obtained based on the significance test of 0.05, meaning that it was valid. Meanwhile, the results of the reliability test showed that the Cronbach alpha number was 0.85. So, this figure is greater than the minimum value of Cronbach alpha 0.6. Therefore, the research instrument used to measure student achievement motivation variables can be said to be reliable. The questionnaire used is a closed type questionnaire using Likert data to select answers in Table 2.

Table 2. Assessment category and questionnaire value

Assessment	Assessment score	
	Positive statements	Negative statements
Strongly agree	5	1
Agree	4	2
Doubtful	3	3
Disagree	2	4
Strongly disagree	1	5

The available questionnaires were tested for validity and reliability using the Product-moment correlation formula and the Alpha formula.

3. RESULTS AND DISCUSSION

The use of the e-learning method is measured by several indicators. The following shows the frequency, mean and standard deviation of each variable indicator using the e-learning method. Regression Test between the Variable of Using the e-learning Method on the Variable of CRE Learning Outcomes. Regression test to determine whether the effect of using the e-learning method on CRE learning outcomes is significant or not. Based on the results of the calculations, the results are as shown in Table 3.

Table 3. Statistical regression test between the variables of using the e-learning method to the CRE learning outcomes variables

Model	ANOVA ^a				
	Sum of squares	df	Mean square	F	Sig.
1 Regression	143.277	1	143.277	6.377	.017 ^b
Residual	741.408	33	22.467		
Total	884.686	34			

a. Dependent Variable: Learning outcomes

b. Predictors: (Constant), e-learning Method

Based on the Table 3, it can be seen that the resulting F value is 6.37 which is significant at $\alpha < 0.05$. Thus, it can be concluded that the variables using the e-Leraning method have a significant effect on the CRE learning outcomes. Based on the results of regression testing, as shown in Table 3, it has met the criteria, or there is an F value generated of 6.37, which turns out to be significant at $\alpha < 0.05$. Thus, it can be concluded that there is a positive and significant influence between the variables using the e-learning method on learning outcomes. It can be said that the use of the e-learning method uses information and communication technology as a tool, intending to increase efficiency, effectiveness, transparency, accountability, and learning comfort, with the object being a better, more interesting, interactive, and attractive learning service. The expected result is an increase in student academic achievement and skills and reduced costs, time, and energy for the learning process.

The use of e-learning methods has a direct effect on learning outcomes. From the analysis results that produce value for testing the effect of using the e-learning method on learning outcomes, CRE shows an F value of 6.37 with a significance of 0.01. because $r_{count} 0.402 > r_{table} 0.334$ and a significance value of 0.01 < 0.05 . The results of this study indicate that learning outcomes are influenced by the variable use of the e-learning method in teaching and learning activities. The psychological and significant regression results mean that there is a significant influence between the variables using the e-learning method on the CRE learning outcomes. Teachers can maximize the benefits of e-learning by prioritizing collaboration. Problem-solving, as well as risk-taking, seem to point to the involvement of learners. e-learning can only be used in higher inclusive education if it is linked to traditional learning [16].

The design team must determine the target participants accurately and consider many aspects, such as the type of Education and medium [17]. e-learning technology is a tool used by teachers and practitioners as a new way of conveying information. This method allows students to gain skills in interaction. The learning process has become more flexible and affordable. Also, this technique fulfills the requirements of student-centered learning process [18].

Moodle is an application that facilitates real interaction between students and teachers. Moodle is a means for students to share and discuss their knowledge and difficulties. So, they can help each other through forums and chats. The discussions help the teacher to understand which parts of their learning are difficult. The trend shows that students have a high interest in e-learning techniques. Successful eLearning and

eTeaching practices and activities need to involve dialogue, social environment, and control that mutually support this process and provide an actual application. The use of e-learning elements by teachers in the educational process needs to be evaluated for their use. There is the availability of video connections with teachers as an essential e-learning [19]. Consistent use of e-learning is a crucial indicator of learning process satisfaction and success [20].

Regression Test between Student Activity Variables on CRE Learning Outcomes Variables. Regression test calculations to determine whether the effect of student activity on CRE learning outcomes is significant or not. Based on the calculation results, the results are as shown in Table 4.

Table 4. Statistical regression test between student activity variables on CRE learning outcomes variables

		ANOVA ^a				
	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	180.365	1	180.365	8.451	.006 ^b
	Residual	704.321	33	21.343		
	Total	884.686	34			

a. Dependent Variable: Learning outcomes

b. Predictors: (Constant), Student activity

Based on the Table 4, it can be seen that the resulting F value is 8.45, which is significant at $\alpha < 0.05$. Thus, it can be concluded that the student activeness variables have a considerable influence on the CRE learning outcomes variable. The regression testing results shown in table 7 have met the criteria or an F value generated of 8.45, which turns out to be significant at $\alpha < 0.05$. Thus, it can be concluded that there is a positive and significant influence between the student activeness variables on CRE learning outcomes. The explanation above can be said that the activeness of students in the learning process is very important. If students are active in asking, answering questions, and giving responses, the learning process will be enjoyable, and students will get a lot of new knowledge. Learning activities will make learning effective. Teachers do not only convey knowledge and skills. However, the teacher must be able to bring students to be active in learning.

Student activeness has a direct effect on CRE learning outcomes. The analysis results resulted in a value for testing the effect of student activeness on CRE learning outcomes, which showed an F value of 8.45 with a significance of 0.00. because $r_{\text{count}} 0.452 > r_{\text{table}} 0.334$ and a significance value of $0.00 < 0.05$. The results of this study indicate that the variable student activity influences learning outcomes in teaching and learning activities. The psychological and significant regression results mean a significant influence between the student activeness variables on the CRE learning outcomes. There must be an active, fun, engaging, and participatory learning environment for increasing student learning and participation. Teachers need more specific ways to form a shared learning environment [21]. Innovative teaching and learning methods such as short lectures, simulations, roleplaying, portfolio development, and problem-based learning (PBL) are beneficial in responding to technology's rapid development [22]. The results of the research prove that students are more likely to be motivated when implementing e-learning. If students are more motivated to learn, they are more likely to be involved. They will achieve their learning objectives. As shown in Table 8, the results of regression testing have met the criteria, or there is an F value generated of 6.57, which turns out to be significant at $\alpha < 0.05$. Thus, it can be concluded that there is a positive and significant influence between the student achievement motivation variables on learning outcomes. Based on the explanation above, it can be said that learning motivation is one of the factors that determine the effectiveness of learning. A student will learn well if there is a driving factor, namely learning motivation. Students will learn if they have high learning motivation.

Student achievement motivation has a direct effect on learning outcomes. From the results of the analysis resulted in a value for testing the effect of student activeness on learning outcomes, CRE showed an F value of 6.57 with a significance of 0.01. because $r_{\text{count}} 0.408 > r_{\text{table}} 0.334$ and a significance value of $0.01 < 0.05$. The results of this study indicate that the student achievement motivation variable also influences CRE learning outcomes in the teaching and learning process. The results of the psychological regression and significance have the meaning that there is a significant influence between the student achievement motivation variables on the learning outcomes of CRE. The study results indicate an important relationship between course structure and students' perceptions of learning. Also, the subject structure is one of the strongest impacts on the learning process. One possible explanation is that much of the current online learning is a consistent learning process layout. Therefore, the results from consistency between course structures can improve student learning [23]. Therefore, there is a link between the level of student engagement with online resources and overall academic outcomes. Measured online activity, namely the number of recorded sessions, online assessments, files viewed and messages read, time spent on each session,

and the activities for High Distinction students were much longer than those who failed. It is expected that there is a relationship between the number of times students spend offline studies affecting learning outcomes. Just bias, the effectiveness, and attractiveness of online learning resources can be increased by actively involving students.

The importance of assessment design and consistent communication can enhance the development of students' learning abilities [24]. Participation in class has a strong influence on improving student learning outcomes and is indirectly related to learning outcomes through experience [25]. A significant interaction effect between condition and self-efficacy results in a large decrease in student self-efficacy in the Digital Learning condition and a slight decrease in student self-efficacy in face-to-face situations [26]. Based on the results of simultaneous regression testing, as shown in table 4.7, it has met the criteria, or there is an F value generated of 8.96, which turns out to be significant at $\alpha < 0.05$. Thus, it can be concluded that between the variables using the e-learning method, the student activeness variable, the student achievement motivation variable on the CRE learning outcome variable, there is a positive and significant influence.

Based on the explanation above, it can be said that simultaneously or jointly between the variables of the use of the e-learning method, the student activeness variable, the student achievement motivation variable are the factors that directly influence the learning outcomes of CRE. The use of e-learning methods, student activeness variables, and student achievement motivation variables directly influence the variable CRE learning outcomes. The analysis results resulted in a value for testing the effect of variables using the e-learning method, student activeness variables, student achievement motivation variables on PAK learning outcomes showed an F value of 8.96 with a significance of 0.00. because $F_{count} 0.682 > F_{table} 0.334$ and a significance value of $0.00 < 0.05$. Positive learning outcomes between online and face-to-face students can be an option in the learning process for higher education [27]. Language classes benefit immensely from virtual learning [28]. Computers are a tool to improve students' ability to infer the relationship between concepts and the environment around them. Students become more motivated to take the initiative to learn on their own when they are faced with controlled learning and visual arrangements [29].

In the context of the e-learning environment, users do not interact, but its effectiveness has been proven in increasing the involvement, motivation, and learning outcomes of students [30]. More than 60% of students agreed on presenting the previously recorded material and watching videos plus answering short questions was very useful. This is also supported by Ming-Mung Lin's research results showing that digital learning has a positive and significant effect on motivational learning rather than traditional teaching. Digital learning also indicates a positive and significant influence on learning outcomes [31]. Igowati's research explaining that this learning can make it easier for students to understand the knowledge and be more active, so it can be concluded that there is a positive and significant influence [32]. Likewise, the results of Harandi, research explained that there were positive and significant effects/consequences in the learning process [33].

4. CONCLUSION

Based on the research results, student learning outcomes increase in using e-learning methods if implemented properly and effectively. By active learning, students are invited to participate in all learning processes mentally and physically. This method usually students will feel a more pleasant atmosphere. So learning outcomes can be maximized. Teachers maximize responses by students in enabling students to take part in the learning process. With the development of technology and information, teachers and students are expected to follow and master technology in supporting the learning process. The use of the e-learning method is recommended to be improved by teachers in schools because it has moderate value in responding to global challenges.

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